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10/517,064

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Luc Moens

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EXAMINER

TOSCANO, ALICIA

ART UNIT

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1712

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/517,064 | Applicant(s) MOENS ET AL. | |
| | Examiner Alicia M. Toscano | Art Unit 1712 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant argues Examiner did not address the amorphous requirement of Claim 1.

Examiner agrees. New grounds of rejection are set forth below.

Claim Objections

1. Claim 22 is objected to because of the following informalities: The Mn is specified however which polymer it pertains to is not clear. Examiner's previous action and Applicants response over Claim 22 made the assumption the Mn requirements was drawn to the acrylic polymer. The Claim will continue to be examined as such however appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 13-21, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moens (US 5397641) in view of Kaplan (US 587192) and Barkac (US 6191225).

Moens discloses thermosetting powder compositions. Thermosetting powder compositions containing a carboxyl group containing polyester and glycidyl group containing acrylic copolymers. The glycidyl group containing acrylic copolymer inherently acts as a curing agent which reacts with the polyester's carboxylic group and thusly meets the limitations of both the glycidyl containing acrylic copolymer and the curing agent of Claim 1. The glycidyl copolymer is used in an amount from 90-10 wt% and the carboxyl polyester is used in an amount ranging from 60-80 wt% as further required by the Claim.

Moens discloses the carboxyl group polyester to comprise 75 mol% terephthalic acid, 10 mol% 1,3-cyclohexanedicarboxylic acid and 14 mol% of at least one other polycarboxylic acid. (Column 2 Lines 66-Column 3 Line 2). The other polycarboxylic acid may be isophthalic acid (Column 4 Line 54). The diol may be neopentyl glycol (Column 5 Line 6). Said composition meets the requirements of the carboxyl polyester of Claims 13, 14, 15, 16 and 17. The molecular weight of the polyester is from 1500 to 12000 (Column 6 Lines 29-30), the acid number is 30-150 mg of KOH and the ICI viscosity is from 0.1-15 Pa.s. As the composition requirements and three of the four properties of Claim 18 are met, Examiner finds the Tg range of Claim 18 to be inherent, thus meeting all the limitations of Claim 18. The molecular weight, as discussed, meets the limitations of Claim 19.

Moens discloses the glycidyl group containing acrylic polymer to be obtained from 45-75 wt% glycidyl methacrylate and the like (Column 6 Lines 35-38) and at least 5 to 55 wt% one other methacrylic monomer, such as acrylic acid (Column 6 Line 55). The molar percentages are not disclosed, however it is the Examiners position that since this weight range meets the limitations of Claim 13 it inherently encompasses the molar range disclosed in Claim 20. The T_g of the glycidyl acrylic polymer is 50-130°C and the number average molecular weight is from about 2000 to about 8000 (Column 7 Lines 13-33). The ICI viscosity is not disclosed, however as the composition, molecular weight and T_g requirements have been met, it is the Examiners position that the ICI viscosity is inherent in Moens, thus meeting the limitations set forth in Claim 21.

Fillers are disclosed to include ultraviolet absorbing compounds, flow control agents, degassing agents and pigments (Column 8 Lines 19-48), as required by Claim 26.

Moens does not disclose if the carboxyl functional polyester is amorphous, crystalline or semicrystalline, as further required by Claim 1.

Barkac discloses thermosetting powder compositions comprising a carboxyl functional polyester (abstract). The carboxyl functional polyester may be crystalline or amorphous (Column 19 Lines 11-12). Barkac thusly teaches said polyesters to be functional equivalents.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Moens the use of an amorphous carboxyl functional polyesters,

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as taught by Barkac, since it is recognized in the art as a functional equivalent to crystalline carboxyl functional polyesters.

Kaplan discloses thermosetting powder compositions comprising an amorphous or semicrystalline carboxy functional polyester (abstract). Kaplan thusly teaches said polyesters to be functional equivalents.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Moens the use of an amorphous polyester, as taught by Kaplan, as it is recognized in the art as being a functional equivalent to a semicrystalline carboxyl functional polyester.

3. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moens (US 5397641), Kaplan (US 587192) and Barkac (US 6191225 in further view of Kaplan (US 6313234).

Moens, Kaplan '192 and Barkac include elements as set forth above. Moens further discloses typical thermosetting powder compositions in Column 1 Lines 34-43. Thermosetting powder compositions containing a carboxyl group containing polyester and glycidyl group containing acrylic copolymers or beta-hydroxyalkylamides have good weatherability (Column 1 Line 6-Column 2 Line 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a combination of the acrylic copolymer and the beta-hydroxylalkylamide, both taught by the reference to be used as curing agents for the same composition, in the polyester composition of Moen, in order to obtain a powder

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coating composition having good weatherability properties. See In re Kirkhoven 205 USPQ 1069 (CCPA 1980).

Moens, Kaplan '192 and Barkac do not disclose a specific beta-hydroxyalkylamine or the amount useful for the composition. Kaplan '234 discloses heat settable coating systems. Said systems comprise a carboxyl functional polyester and a curing agent of a beta-hydroxyalkylamide and/or a polyfunctional epoxy compound (abstract). Said curing agents both react with the carboxyl functionality on the polyester to cure the composition. Kaplan '234 thusly teaches the functional equivalents of said compounds. Said beta-hydroxyalkylamide may be bis[N,N'-di(beta-hydroxyethyl)]adipamide (Column 2 Line 63). The beta-hydroxyalkylamide is used in an amount from 3.5-5 wt% of the composition (Table 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Moens, Kaplan '192 and Barkac the use of bis[N,N'-di(beta-hydroxyethyl)]adipamide, as taught by Kaplan '234, it is recognized in the art as a functional equivalent to the epoxy functional polymers used to cure carboxyl polyesters.

Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Moens, the use of 3.5-5 wt% beta-hydroxyalkylamine, as taught by Kaplan, in order to obtain a cured coating with superior hardness. Thus all the requirements of Claims 24 and 25 are met.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moens, Kaplan '192 and Barkac in further view of Hoebeke (US 5525370).

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low Mn glycidyl acrylate polymer results in a high gloss finish, whereas the high Mn glycidyl acrylate polymer results in a matte finish (pg 21 Lines 29-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Moens and Kaplan, the use of a Mn of 10000-25000, as taught by Knoops, in order to create a powder coating with a matte finish.

Conclusion

Response to Arguments

6. Applicant's arguments, see remarks, filed 5/11/7, with respect to the rejection(s) of claim(s) 13-26 and 23-26 under 35 USC 103(a) over Moens and Kaplan have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made. See above.
7. Arguments drawn to Moens not disclosing the use of an amorphous polyester are moot due to new grounds of rejection set forth above.
8. Applicant argues the Examiners statement of the beta-hydroxyalkylamides and glycidyl polyester being "taught for the same purpose" is incorrect. Examiner disagrees. Both are taught as curing agents for carboxyl polyesters. Said statement was not intended to draw a link between Moens and Applicant's invention, as the applicant states. Examiner has stated that both are taught as curing agents in the rejection above to make the record clear.
9. Applicant argues Moens describes a different polyester. Examiner disagrees. Moen's polyester meets the limitations of Applicants Claims, as set forth previously.

Moens, Kaplan and Barkac include elements of the invention as discussed above. Moens and Kaplan do not explicitly disclose the use of a Mn of 10000 or greater for the glycidyl acrylate polymer.

Hoebeke discloses powder coating compositions comprising a polyester and a glycidyl acrylate binder (abstract). The Mn of the glycidyl acrylate binder is disclosed to be between 4000-10000 (abstract). This inclusion of the a glycidyl acrylate polymer within this Mn range is disclosed to be essential in order to create a coating with good appearance, adhesion and weathering resistance (Column 5 Lines 52-54).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Moens, Kaplan and Barkac, the use of a Mn from 4000-10000, as taught by Hoebeke, in order to create a coating with superior appearance, adhesion and weathering.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moens, Kaplan '192 and Barkac in further view of Knoops (WO 02055620).

Moens, Kaplan '192 and Barkac include elements of the invention as discussed above. Moens, Kaplan '192 and Barkac do not include the use of a Mn of greater than 10000 for the glycidyl acrylate polymer.

Knoops discloses powdered thermosetting compositions comprising a polyester and a glycidyl acrylate polymer (abstract). Said glycidyl acrylate polymer has a Mn ranging from 10000 to 25000 (pg 9 Line 14). Examples 29 and 30 disclose compositions with a glycidyl acrylate polymer Mn of 15000 and 9300 respectively. The

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10. Applicant argues Moens teaches that high gloss is desirable. Examiner notes that this is moot because gloss requirements are not in Applicants Claims. Examiner further adds that the manipulation of gloss, if it were in the claims, would be obvious to one of ordinary skill.

11. Applicant argues Moens teaches away from using 100% neopentyl glycol or 2-butyl-2-ethyl-1,3-propanediol as the diol. Applicants Claims do not require 100% of said diols. Moens meets the limitations, as set forth previously and above.

12. Applicant argues Moens teaches against using additional agents and there is no reason why one would add a second agent. Examiner disagrees. Firstly, a composition consisting of the carboxyl terminated polyester (a) and glycidyl polymer (b) meets the limitations of Applicants Claim 1. Secondly, regarding Claims 24, mixing things taught to be used for the same purpose is obvious, as set forth above.

13. Applicant argues there is no basis to combine Kaplan '234 with Moens (now Moens, Kaplan '192 and Barkac), Examiner disagrees. Motivation is as set forth above. Applicant further argues a reader of Moens would not consult Kaplan '234. Examiner disagrees. Both teach similar compositions. Motivation to combine is proper and is as set forth above.

14. Applicant argues there is no basis for assuming other properties such as Tg are inherent. Examiner disagrees. It is unclear why, if Moens meets the compositional requirements, said properties would not be inherent. Examiner requests data to back up Applicant's arguments.

15. Applicant argues against combining Hoebeke with Moens (now Moens, Kaplan '192 and Barkac) because Hoebeke is concerned with matte not high gloss finishes. Examiner disagrees. Hoebeke discloses motivation for the Mn range for the glycidyl acrylic polymer as set forth above. Regarding matte or gloss, though Hoebeke prefers matte finishes, he further discloses the amount of the glycidyl acrylic polymer to result in matte or gloss appearance, where greater than 30% of said polymer results in high gloss. Mn does not affect the gloss/matte finish. Applicants arguments are moot.

16. Applicant argues against combining Knoops with Moens (now Moens, Kaplan 192 and Barkac) because Knoops is drawn to semi crystalline polyesters. Examiner disagrees. That the polyester is semicrystalline is moot since the rejection is over the Mn of the glycidyl acrylate polymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMT



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